Frank, a recent OSU graduate, has just established a beautiful, 100-gallon freshwater fish tank in his lovely new apartment using money from his great paying new job. He wants to start simple, so he puts 2 male goldfish (one gold colored and one albino, i.e. white) and five female goldfish (four gold-colored and one albino) into his tank. He then decides to celebrate his new job and apartment by having a party at his place. While Frank considers himself only an average looking guy, he is surprised to find himself the center of attention of a number of young women. While he is distracted talking to group of young ladies, one of his friends accidentally puts 2 tablespoons of plant food (fertilizer) instead of fish food into his fish tank.

A couple of days later, Frank notices a huge increase in the amount of algae in his tank. While he is looking at his tank, some of the fish begin to have slight convulsions. He immediately moves the fish to a clean, temporary tank while he cleans his large tank.

At the end of Frank's first year in his apartment, his fish tank contains his original 7 fish (having fully recovered from their toxin exposure). During the year 120 offspring were produced and 50 died.

During the second year, Frank carefully pairs the original gold-colored male with each of the females in a separate mating tank. He observed that all of the baby goldfish are gold in color, even those born to the albino female. Out of curiosity, Frank places a male and female offspring (F1 generation) from his original gold male and albino female into the mating tank together.

Recently there has been an outbreak of mumps, a disease caused by a virus, in Iowa and at least seven other Midwestern states. Thirty-seven students out of 1700 students at Loras College in Dubuque, Iowa have caught the mumps since the first reported case in February. Britain experienced a mumps epidemic last year when there were 56,000 cases. Once a childhood rite of passage, mumps has been on the wane since a vaccine came along in the late 1960s.

The adventures of Kyle's cattle continue….

Several years before the birth of Lustrous Luke, Kyle had obtained a calf that began to overeat considerably, was very lethargic, and gained weight far faster than the other calves. Sam, the person that had sold Kyle the calf, said that the calf came from a long line of cattle that when bred together produced these unusually fat cattle. He called this line of cattle "stout". With the current interest in low-carb, high fat diets, Sam was convinced that stout cattle had the potential to be real cash cows! When the calf, which Kyle named Robustus, matured, Kyle bred him with one of his cattle and was disappointed to see that all of their offspring were of normal weight. Sam told Kyle not to worry, just wait a generation and he will begin to see other cattle like Robustus. Sure enough, when the next generation began to breed among themselves, one out of every four calves was stout.

Kyle read about Leptin and asked his vet to check on the cattle's Leptin levels. A change in the DNA that codes for Leptin changes the arginine at position 105 and results in a non-functioning protein. Kyle's vet discovered that the stout cattle produced no Leptin. The vet wanted to do some additional tests, so he decided to measure their metabolic rates. Using a special chamber he measured the oxygen consumption of a stout cow and a normal cow while they were sleeping.

Kyle's vet then injected the stout cattle with Leptin. They lost weight and became more active. With the help of a biochemist from the local university he measured the rate at which the cattle were metabolizing glucose, using oxygen, and producing ATP. They found that **after** Leptin injections, even

when at rest, the stout cattle consumed glucose and oxygen faster, but produced fewer ATP for each glucose molecule used.

To accommodate the additional cattle that Kyle was raising, he decided to dig two 0.5 acre farm ponds. To prepare for the leisure time he anticipated when his stout cattle sales took off, he stocked the ponds with bluegill and bass. The first year the ponds were a little barren; by the second year they were pleasant sites with assorted frogs, lots of aquatic insects and other invertebrates, reasonably clear water, and lots of bluegills and some large bass. However in the third year one pond began to become quite murky, and developed a layer of algae. Several times a year he found large numbers of dead fish in that pond.

Kyle decides to reduce the number of fish in his ponds by adding rotenone to the ponds. As we saw when we "visited" the Amazon and watched the native people fish with liana pulp, the fish came to the surface gasping, then died.

Kyle stocked each of his ponds with 500 bluegill and 5 bass. At the end of the first year there were about 6500 bluegill and 50 bass in each.

In the next few years the populations of bass in each pond were as follows:

Pond	Year 2	Year 3	Year 4	Year 5
Clear	65	80	81	79
Murky	50	40	30	20

Kyle found a large population of one species of snail in one of his ponds. He grabbed a handful of them and tossed them into the second pond, where no snails had been previously.

Because the pond was getting choked by algae, Kyle decided to use an algaecide that captures electrons as they leave Photosystem I. The algae do not die immediately, but do so after a few days.

Kyle became very depressed over the loss of his cattle during a drought. His physician prescribed Cymbalta® (duloxetine hydrochloride) which is a selective serotonin and norepinephrine reuptake inhibitor. Serotonin and norepinephrine are neurotransmitters that are normally removed from the synapse by being reabsorbed by the pre-synaptic membrane; otherwise they would continue to trigger action potentials (like acetylcholine). Serotonin is synthesized by enzymes found in the cytoplasm.

While mending a fence, Kyle cuts himself deeply. He is admitted to the hospital where it appears he may need a transfusion to replace the blood he has lost. Kyle cannot remember his blood type. The attending physician says there is no worry, since she knows Kyle's parents' blood type, she is positive of Kyle's blood type.

Lizards of the family Lacertidae inhabit mainland Africa and the Canary Islands. The species on the mainland are insectivores. Each of the seven species of Lacertids on the Canary Islands eat a different set of fruits, vegetables, and insects. It is probable that the Canary Island Lacertids evolved from members of an ancestral species that rafted from northwestern Africa to the eastern islands, and then spread west colonizing each of the islands.

Dr. Irschick recently spoke in the Zoology Department about sexual selection in Anolis lizards. He provided evidence that the size of a male's brightly colored (red) dewlap (chin flap) is correlated with the strength of his bite. Males of the same size differ in the size of their dewlaps; males that can bite hardest inflict considerable damage on other males and win fights for territories.